

### DETAILED ACTION

1. This Notice of Allowability/Examiner's Amendment is responsive to applicant's appeal brief filed on 04 April 2011 and an Examiner initiated Interview on 09 June 2011. Details of the interview are attached at the PTO Form 413B. The claims have been amended via the Examiner's Amendment below.

### EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in a telephone interview with Mr. Matthew S. Anderson (Registration No. 39,093) on 09 June 2011.

The application has been amended as follows: Please **REPLACE** the claims as follows

1. (Currently Amended) A method for determining feature data that represents information about the shape of an object  $\{o\}$ , the object  $\{o\}$  being located in a  $k$ -dimensional space, the method comprising the steps of:

determining, by a computer, a partitioning scheme that defines a plurality of cells in the space in which the object is located such that at least some of the cells each contain a respective portion of the object, wherein at least some of the cells defined by the partitioning scheme represent  $k$ -dimensional spheres,  $k$ -dimensional shells, sectors of  $k$ -dimensional spheres, or sectors of  $k$ -dimensional shells in the space in which the object is located; and

determining, by the computer, the feature data for the object on the basis of at least one property of the respective portions of the object that are contained in the plurality of cells, wherein at least two of the plurality of cells overlap each other at least in part.

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2. (Currently Amended) The method of claim 1, ~~characterized in that~~ wherein the plurality of cells comprises at least a first and a second group of cells such that the union of the cells in the first group of cells coincides with the union of the cells in the second group of cells, wherein each cell of the first group of cells overlaps at least in part with at least one respective cell of the second group of cells.

3. (Currently Amended) The method of claim 1 or claim 2, ~~characterized in that~~ wherein the plurality of cells comprises at least a group of nested cells, wherein all cells of the group of nested cells are nested within each other.

4. (Currently Amended) The method of claim 3, ~~characterized in that~~ wherein the cells of the group of nested cells form a sequence in which the  $k$ -dimensional volume of the respective portions of the object ~~( $\theta$ )~~ that are contained in the cells of the group of nested cells increases in a substantially regular manner.

5. (Currently Amended) A method for determining feature data that represents information about the shape of an object, the object being located in a  $k$ -dimensional space, the method comprising the steps of:

determining by a computer, a partitioning scheme that defines a plurality of cells in the space in which the object is located such that at least some of the cells each contain a respective portion of the object, and

determining by the computer, the feature data for the object on the basis of at least one property of the respective portions of the object that are contained in the plurality of cells, wherein the partitioning scheme is determined such that at least some of the boundaries of the cells defined by the partitioning scheme are adapted to the individual shape of the object to delimit a plurality of regions in the space in which the object ~~( $\theta$ )~~ is located such that the respective portions of the object that are contained in the plurality of regions are approximately equal to each other with respect to a predetermined measurement metric.

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6. (Currently Amended) The method of claim 5, ~~or any of claims 1—4~~ wherein the plurality of cells comprises at least a first and a second group of cells such that the union of the cells in the first group of cells coincides with the union of the cells in the second group of cells, wherein each cell of the first group of cells overlaps at least in part with at least one respective cell of the second group of cells.

7. (Currently Amended) The method of claim 5 ~~or claim 6, characterized in that~~ wherein at least one region of the plurality of regions contains at least two cells of the plurality of cells that overlap each other at least in part.

8. (Currently Amended) The method of ~~one of claims~~ claim 5, wherein 5—7, characterized in that all regions of the plurality of regions are disjoint with respect to each other.

9. (Currently Amended) The method of ~~one of claims~~ claim 5, 5—8, characterized in that wherein the measurement metric, for each region of the plurality of regions, is the  $k$ -dimensional volume of the respective portion of the object contained in this region.

10. (Currently Amended) The method of ~~one of claims~~ claim 5, 5—9, characterized in that wherein each region of the plurality of regions corresponds to the union and/or difference and/or intersection of at least two cells of the plurality of cells or to exactly one cell of the plurality of cells.

11. (Currently Amended) The method of ~~one of claims~~ claim 5, 5—10, characterized in that wherein at least some of the regions of the plurality of regions represent  $k$ -dimensional spheres and/or  $k$ -dimensional shells and/or sectors of  $k$ -dimensional spheres and/or sectors of  $k$ -dimensional shells in the space in which the object is located.

12. (Cancelled).

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13. (Currently Amended) The method of ~~one of claims 1–12, characterized in that~~ claim 1, wherein the feature data for the object is determined on the basis of the  $k$ -dimensional volume of each respective portion of the object contained in each cell of the plurality of cells and/or on the basis of data defining the  $k$  principal axes of each respective portion of the object contained in each cell of the plurality of cells.

14. (Previously Presented) The method of claim 1, wherein the determining steps are performed first for a first object and then also performed for a set of second objects to determine feature data for the first object and for each of the set of second objects, and further comprising performing a similarity search between the first object and the set of second objects based on a comparison of the determined feature data.

15. (Currently Amended) The method of claim 1, wherein the determining steps are performed to determine feature data for each object of a set of objects, and wherein the objects of the set of objects are grouped according to their respective similarities on the basis of a classification of the determined feature data.

16. (Currently Amended) A non-transitory computer-readable medium encoded with executable program instructions for execution by at least one processor, wherein the program instructions cause the at least one processor to perform a method according to ~~one of claims 1–15~~ claim 1 or claim 5.

17. (Cancelled).

18. (New) An apparatus, comprising: at least one processor, wherein the apparatus is configured to perform a method according to claim 1 or claim 5.

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***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6751343            US 6731781            US 7006927            US 2003/0007682

US 2002/0001398    US 2003/0184730    US 2003/0185436    US 2004/0006431

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mia M. Thomas whose telephone number is (571)270-1583. The examiner can normally be reached on Monday-Thursday 8:00-4:30pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Repko can be reached on 571-272-8624. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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